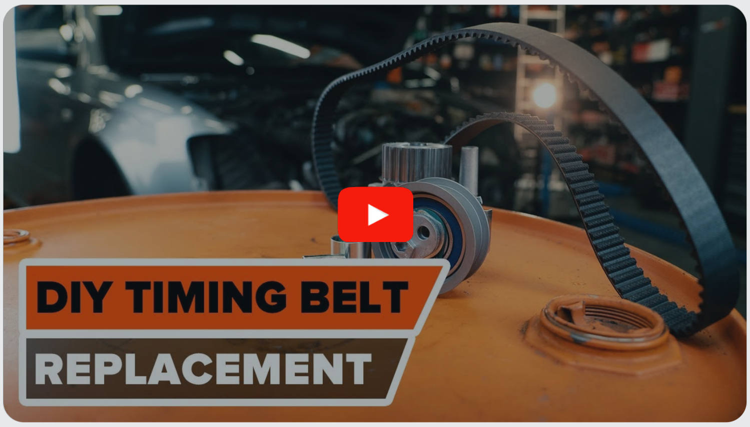
AUTODOC CLUB

How to change water pump & timing belt kit on **Audi A4 B7** – replacement guide

VIDEO TUTORIAL



Important!

This replacement procedure can be used for:
AUDI A3 Sportback (8PA) 2.0 TFSI, AUDI A3 Sportback (8PA) 2.0 TFSI quattro, AUDI A3 Hatchback (8P1) 2.0 TFSI, AUDI A3 Hatchback (8P1) 2.0 TFSI quattro, AUDI A4 B7 Saloon (8EC) 2.0 TFSI quattro, AUDI A4 B7 Avant (8ED) 2.0 TFSI, AUDI A4 B7 Avant (8ED) 2.0 TFSI quattro, AUDI A4 B7 Saloon (8EC) 2.0 TFSI, AUDI A6 C6 Saloon (4F2) 2.0 TFSI, AUDI A6 C6 Avant (4F5) 2.0 TFSI, AUDI TT Coupe (8J3) 2.0 TFSI, AUDI A4 B6/B7 Convertible (8H7, 8HE) 2.0 TFSI 16V, AUDI TT Roadster (8J9) 2.0 TFSI, AUDI A3 Hatchback (8P1) S3 quattro, AUDI TT Coupe (8J3) 2.0 TTS quattro, (+ 4)

The steps may slightly vary depending on the car design.

REPLACEMENT: WATER PUMP & TIMING BELT KIT – AUDI A4 B7. LIST OF THE TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- All-purpose cleaning spray
- Sealant
- Torque wrench
- Combination spanner #13
- Combination spanner #17
- Combination spanner #19
- Combination spanner #22
- Torx bit T20
- Torx bit T25
- Torx bit T27
- 12-point socket # 19
- Drive socket # 7
- Drive socket # 10
- Drive socket # 12
- Drive socket # 13
- HEX bit No.H6
- HEX bit No.H8
- Wheel impact socket #17
- Ratchet wrench
- Tap wrench
- Clip removal tool
- Flat Screwdriver
- Phillips screwdriver
- Crow bar
- Water pump pliers
- Clic-R collar pliers
- Round-nose pliers
- Seal scraper
- Funnel
- Fluid container
- Hydraulic transmission jack
- Jack
- Painter's tape
- Microfibre towel
- Fender cover

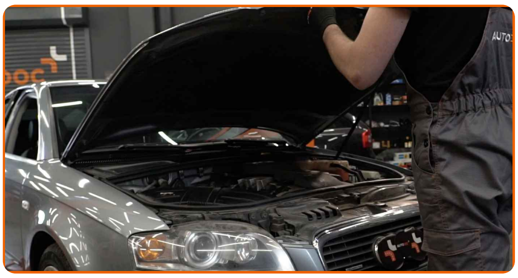
BUY TOOLS

Replacement: water pump & timing belt kit – Audi A4 B7. Tip from AUTODOC experts:

- Follow the terms, recommendations and requirements of the part operation provided by the manufacturer.
- Warning! Shut down the engine before starting any work – Audi A4 B7.

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

1 Open the bonnet.



2 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.

3 Unscrew the fasteners of the car battery terminals. Use a drive socket #10. Use a ratchet wrench.



4 Remove the battery terminals.



5 Unscrew the coolant reservoir cap.



6 Loosen the bumper upper fasteners. Use Torx T27. Use a drive socket #10. Use a ratchet wrench.



7 Lift the car using a jack or place it over an inspection pit.



8 Unscrew the wheel bolts. Use wheel impact socket #17.



AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while unscrewing the fastening bolts. Audi A4 B7

9

Remove the wheel.



10

Unscrew and remove the wheel arch cover fasteners. Use Torx T25. Use a ratchet wrench.



11

Remove the wheel arch cover.



12

Unscrew the fastener of the spacer under the bumper reinforcement bar. Use Torx T25. Use a drive socket #10. Use a ratchet wrench.



13 Unscrew the fastener connecting the bumper to the fenders. Use a drive socket #10. Use a ratchet wrench.



14 Release the side clips of the bumper. Carefully release the bumper from the fasteners.



15 Lower the car.



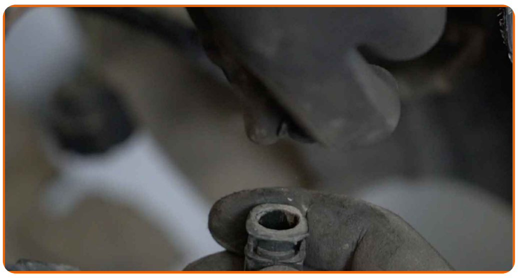
16 Unscrew the upper fasteners of the bumper and remove it. Use Torx T27. Use a drive socket #10. Use a ratchet wrench.



17 Detach the connectors of the fog lights.



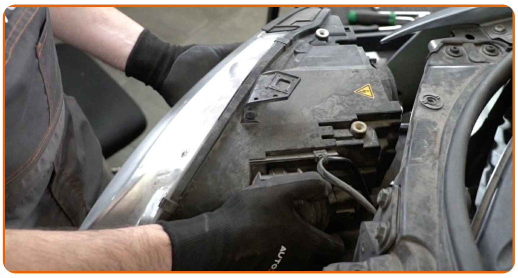
18 Detach the headlamp washer hose.



19 Unscrew the headlight fasteners. Use Torx T27. Use a ratchet wrench.



20 Remove the headlight.



Replacement: water pump & timing belt kit – Audi A4 B7. Tip from AUTODOC:

- Do not apply excessive force when removing the part. Otherwise you may damage it.

21 Unplug the connectors of the headlight bulbs. Use a clip removal tool.



22 Unscrew the headlight fasteners. Use Torx T27. Use a ratchet wrench.



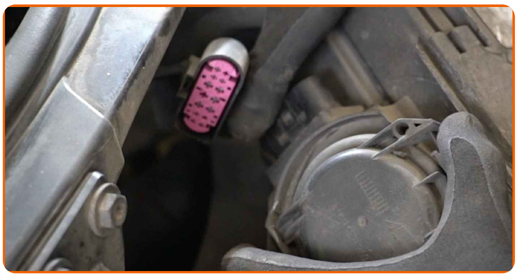
23 Remove the headlight.



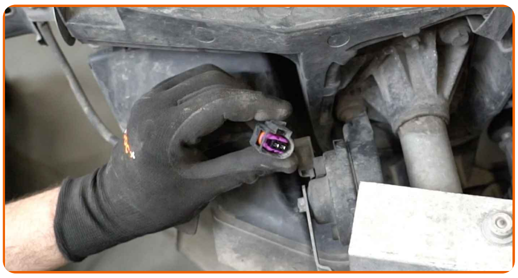
Replacement: water pump & timing belt kit – Audi A4 B7. AUTODOC recommends:

- Do not apply excessive force when removing the part. Otherwise you may damage it.

24 Unplug the connectors of the headlight bulbs. Use a clip removal tool.



25 Unplug the horn connector.



26 Detach the air duct.



27 Unplug the horn connector.



28 Remove the air duct.



Replacement: water pump & timing belt kit – Audi A4 B7. Tip:

- Do not apply excessive force when removing the part. Otherwise you may damage it.

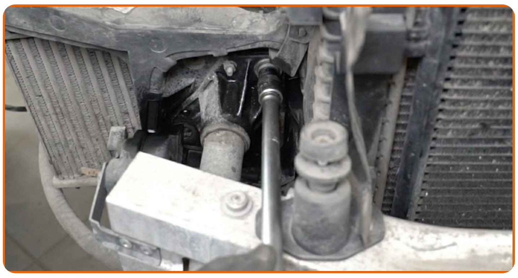
29 Unplug the connector of the coolant temperature sensor.



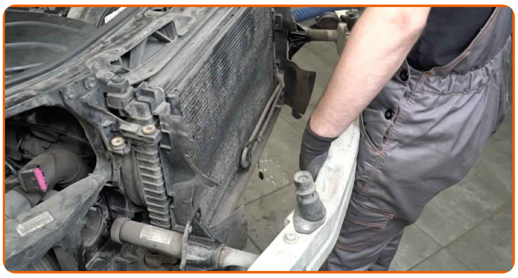
30 Detach the wiring of the coolant temperature sensor. Use a flat screwdriver.



31 Unscrew the fasteners of the bumper reinforcement bar. Use a drive socket #13. Use a ratchet wrench.



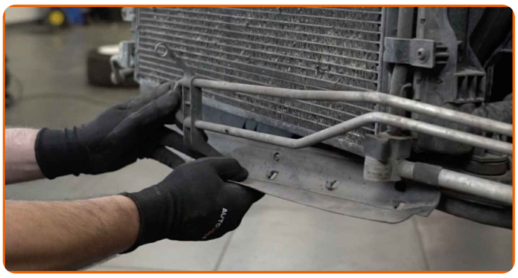
32 Remove the bumper reinforcement bar.



33 Unscrew the fasteners of the radiator air guides. Use Torx T20. Use a ratchet wrench.



34 Remove the radiator air guides.



35 Unscrew the fasteners of the hydraulic power steering hoses. Use Torx T20. Use Torx T27. Use a ratchet wrench.

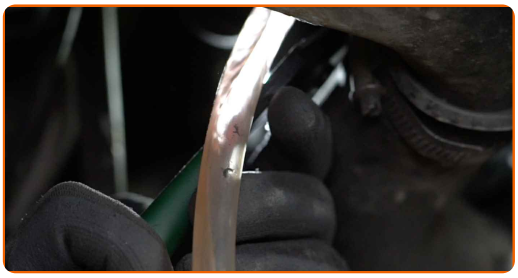


36 Detach the hydraulic power steering hoses.

37 Prepare a container for fluids.



38 Open the coolant drain tap. Use water pump pliers.



39 Drain the coolant from the engine.



Replacement: water pump & timing belt kit – Audi A4 B7. Professionals recommend:

- Caution! The coolant can be very hot.
- Wear gloves to prevent contact with hot liquid.
- All work should be done with the engine stopped.

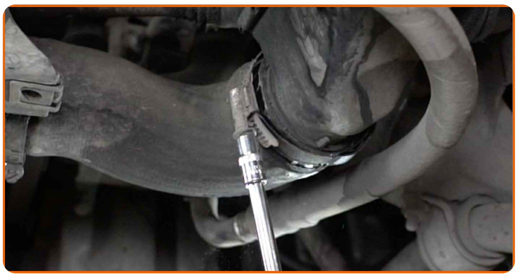
40 Close the coolant drain tap.

41 Detach the clip of the lower coolant hose. Use a clip removal tool.

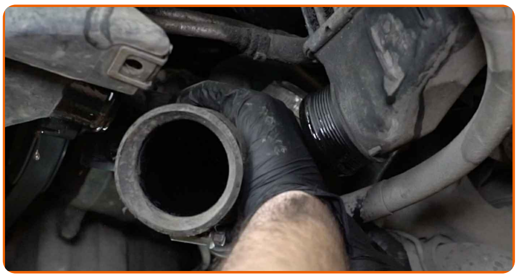
42 Detach the lower coolant pipe. Use a crowbar.



43 Detach the air intake hose clamp. Use a drive socket #7. Use a ratchet wrench.



44 Remove the air intake pipe.



45 Cover the intercooler air guide with a microfibre cloth to prevent dirt and foreign objects from getting into the system.



46 Detach the air intake hose clamp. Use a drive socket #7. Use a ratchet wrench.



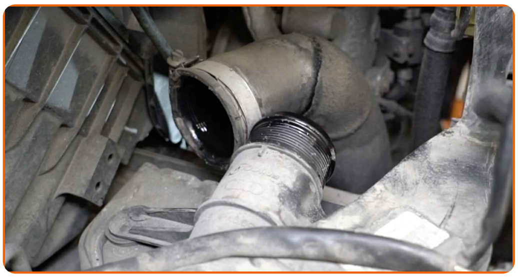
47 Clean the air hose fastener. Use all-purpose cleaning spray.



48 Detach the air intake hose clamp. Use a drive socket #7. Use a ratchet wrench.



49 Remove the air intake pipe.



50 Cover the intercooler air guide with a microfibre cloth to prevent dirt and foreign objects from getting into the system.



51

Prepare a container for fluids.



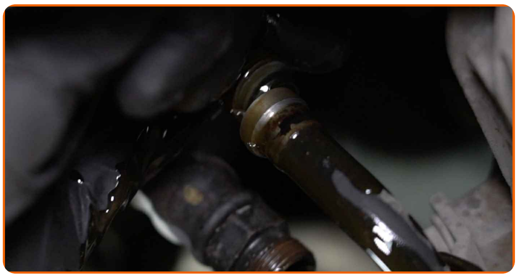
52

Loosen the fastener of the hose of the automatic transmission fluid cooling line. Use a combination spanner #19. Use a combination spanner #22.



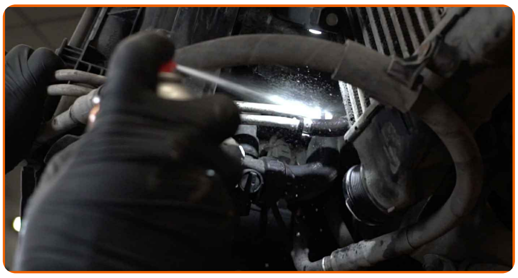
53

Detach the hose of the automatic transmission fluid cooling line.



54

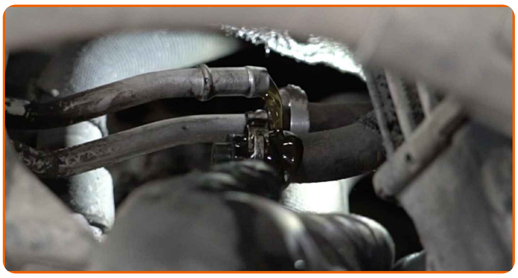
Clean the hose of the automatic transmission fluid cooling line. Use a wire brush. Use all-purpose cleaning spray.



55 Detach the clamps of the pipes of the automatic transmission fluid cooling line. Use a flat screwdriver.



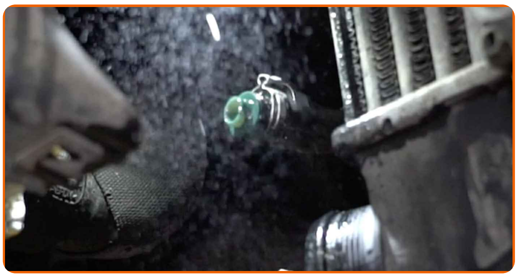
56 Remove the pipes of the automatic transmission fluid cooling line.



57 Close the pipes of the automatic transmission fluid cooling line with caps.



58 Clean the pipes of the automatic transmission fluid cooling line. Use all-purpose cleaning spray.



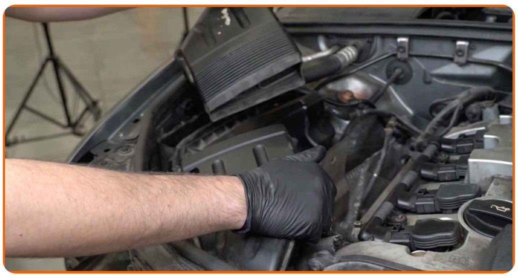
59

Unscrew the fasteners of the air intake duct. Use a Phillips screwdriver.



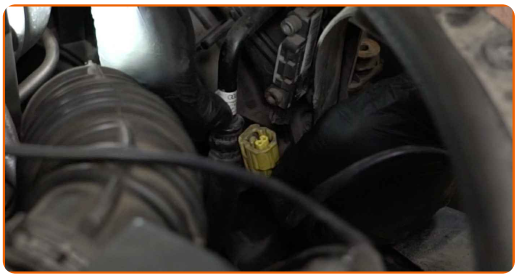
60

Remove the air intake duct.



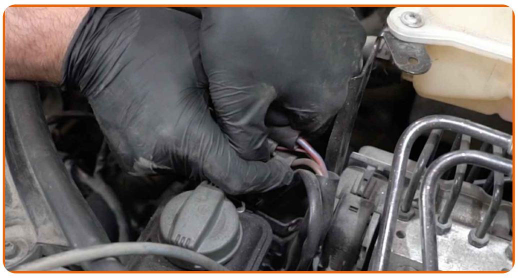
61

Unplug the connector of the engine cooling fans.



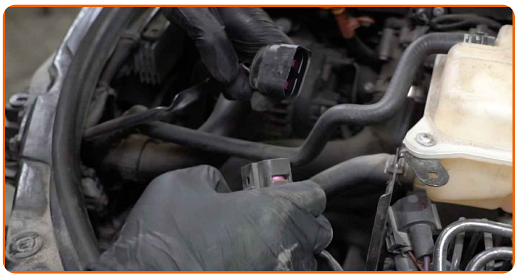
62

Remove the wiring harness holder.



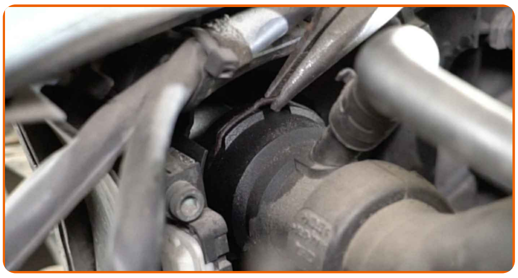
63

Unplug the connector of the engine cooling fans.



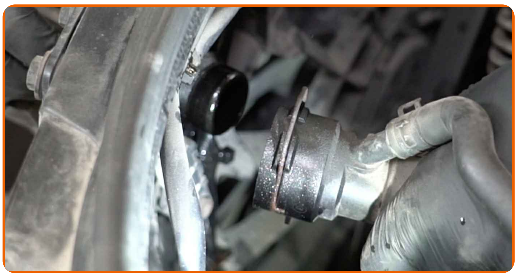
64

Detach the clip of the upper coolant hose. Use round-nose pliers.



65

Detach the upper coolant hose.



66

Remove the bonnet weather strip.



67

Unscrew the fasteners of the air conditioning radiator. Use Torx T27. Use a ratchet wrench.



68

Remove the air conditioning radiator.



69

Unscrew the fasteners of the engine cooling radiator support panel. Use Torx T27. Use a ratchet wrench.



70

Remove the bonnet latch cable.



71

Support the engine in the oil pan area. Use a jack.



72

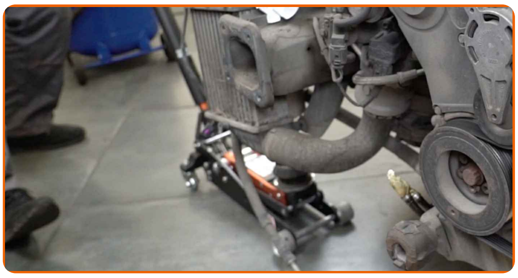
Remove the support panel together with the engine cooling radiator.



AUTODOC recommends:

- Replacement: water pump & timing belt kit – Audi A4 B7. Do not use excessive force when removing the part as this may damage it.

73 Remove the support from under the engine.



74 Remove the engine cover.



Replacement: water pump & timing belt kit – Audi A4 B7. AUTODOC recommends:

- Raise the engine cover, holding it on two sides simultaneously.
- Do not apply excessive force when removing the part. Otherwise you may damage it.

75 Unscrew the fasteners of the front upper timing belt cover. Use a flat screwdriver.



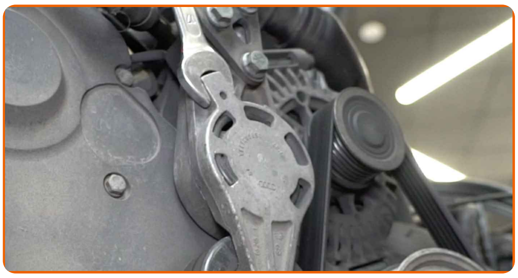
76

Remove the front upper timing belt cover.



77

Pull aside the V-ribbed belt tensioner pulley. Use a combination spanner #17.



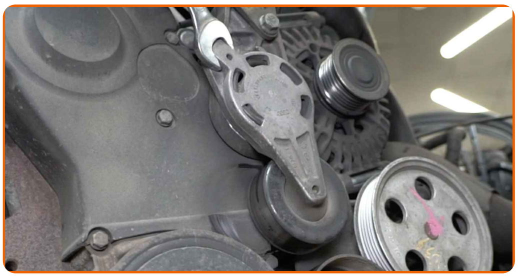
78

Remove the V-ribbed belt.



79

Return the tensioner pulley to its initial position. Use a combination spanner #17.



80 Unscrew the fastener of the serpentine belt tensioner pulley. Use a drive socket #13. Use a ratchet wrench.



81 Remove the serpentine belt tensioner pulley.



82 Unscrew the fastener of the coolant hose clamp. Use HEX No.H6. Use a ratchet wrench.



83 Loosen the coolant hose clamp. Use clic-R collar pliers.



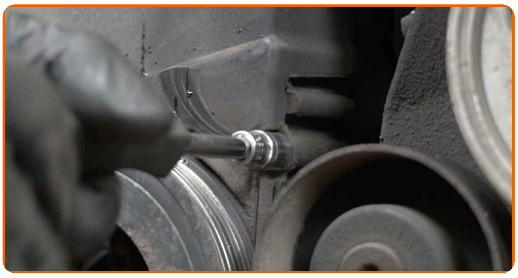
84

Detach the coolant hose.



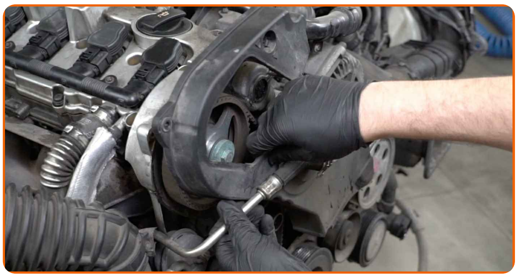
85

Unscrew the fasteners of the timing belt cover. Use a drive socket #10. Use Torx T27. Use a ratchet wrench.



86

Remove the timing belt cover.



87

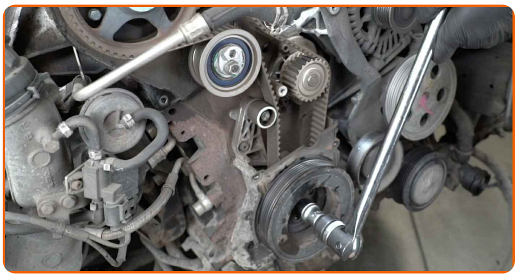
Clean the crankshaft pulley fasteners. Use a wire brush. Use WD-40 spray.



88 Unscrew the crankshaft pulley fastener. Use HEX No.H6. Use a ratchet wrench.



89 Turn the crankshaft gear. Use 12-point socket No.19. Use a tap wrench.



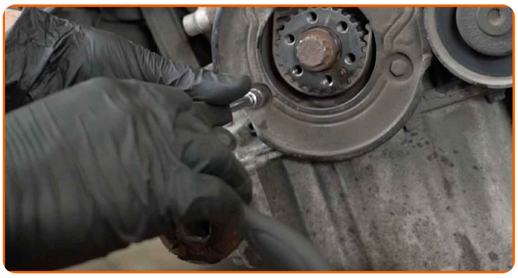
90 Lock the crankshaft. Use a crowbar.



91 Remove the crankshaft pulley.



92 Unscrew the fasteners of the lower timing cover. Use a drive socket #10. Use a ratchet wrench.



93 Remove the lower timing cover.

94 Make a mark on the crankshaft gear.



95 Make a mark on the camshaft gear.



96 Make a mark on the timing belt.



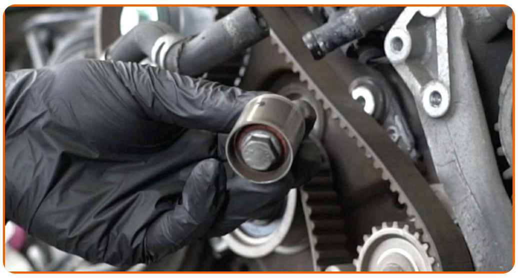
97 Loosen the fastener of the timing belt tensioner pulley. Use a combination spanner #13. Use HEX No.H8.



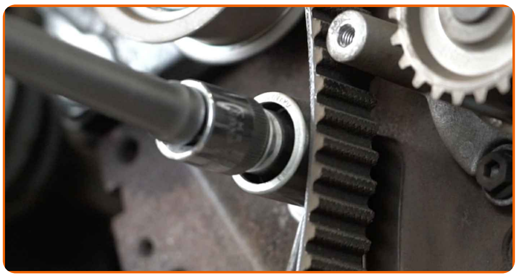
98 Unscrew the fastener of the timing belt idler pulley. Use a drive socket #13. Use a ratchet wrench.



99 Remove the timing belt idler pulley from its mounting seat.

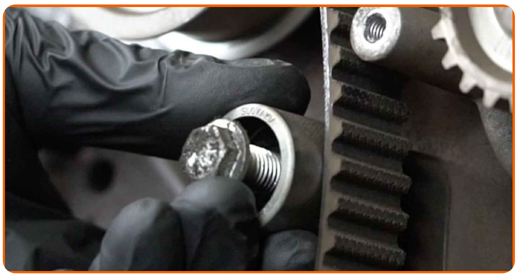


100 Unscrew the fastener of the timing belt idler pulley. Use a drive socket #12. Use a ratchet wrench.



101

Remove the timing belt idler pulley from its mounting seat.



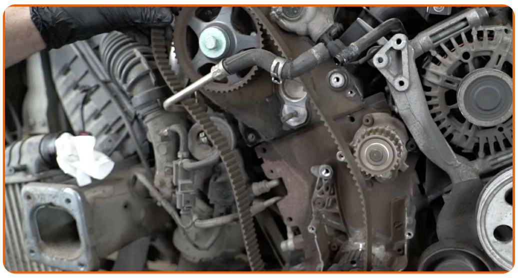
102

Remove the timing belt tensioner pulley.



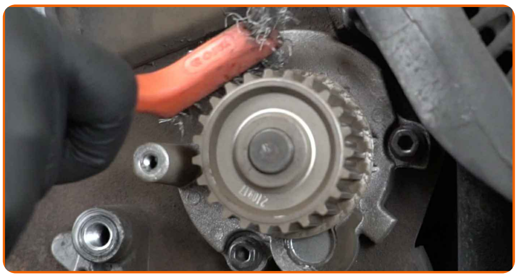
103

Remove the timing belt.



104

Clean the water pump fasteners. Use a wire brush. Use all-purpose cleaning spray.



105

Unscrew the water pump fasteners. Use a drive socket #10. Use a ratchet wrench.



106 Remove the water pump.



Replacement: water pump & timing belt kit – Audi A4 B7. AUTODOC experts recommend:

- Caution! Coolant may come out from the water pump channels and body.

107 Clean the water pump mounting seat. Use a seal scraper. Use all-purpose cleaning spray.



108 Clean the water pump. Use all-purpose cleaning spray.

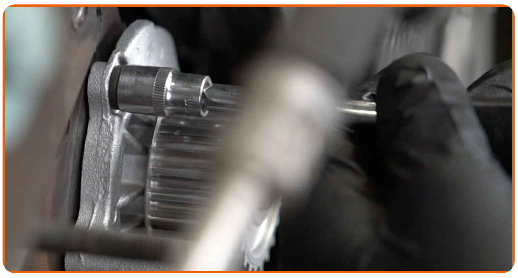


109 Treat the water pump mounting seat. Use a sealant.

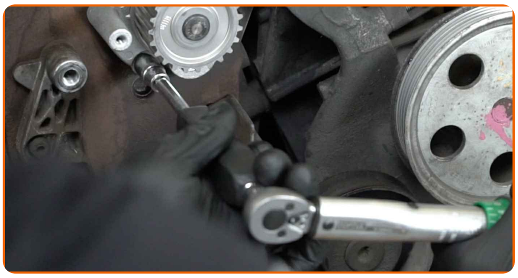
110 Install the new water pump.



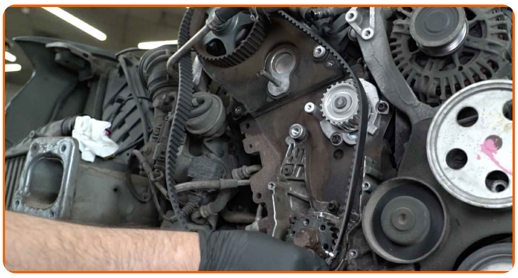
111 Screw in the water pump fasteners. Use a drive socket #10. Use a ratchet wrench.



112 Tighten the water pump fasteners. Use a drive socket #10. Use a torque wrench. Tighten it to 15 Nm torque.



113 Install the new timing belt according to the factory marks.



Replacement: water pump & timing belt kit – Audi A4 B7. Tip:

- Be careful not to damage the timing belt.

114 Install the timing belt tensioner pulley.



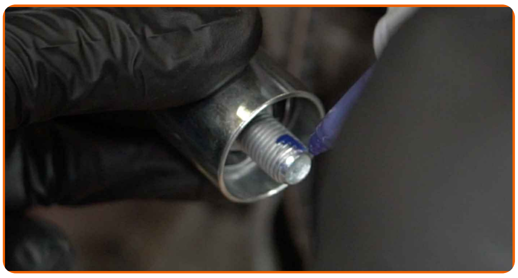
115 Treat the fastening bolt. Use a sealant.



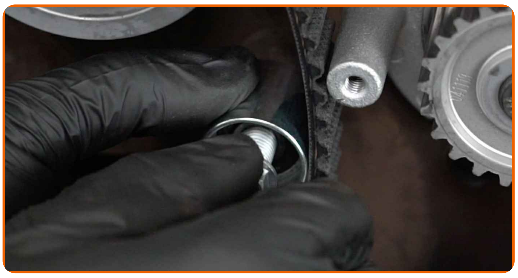
116 Screw in the fastener of the timing belt tensioner pulley. Use a drive socket #13. Use a ratchet wrench.



117 Treat the fastening bolt. Use a sealant.

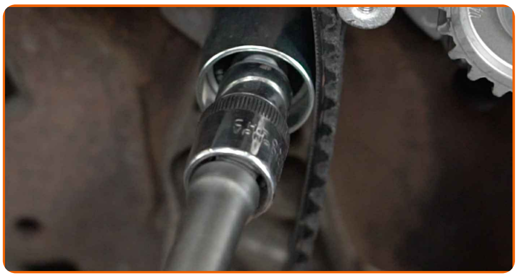


118 Install the timing belt idler pulley.



119

Screw in the fastener of the timing belt idler pulley. Use a drive socket #12. Use a ratchet wrench.



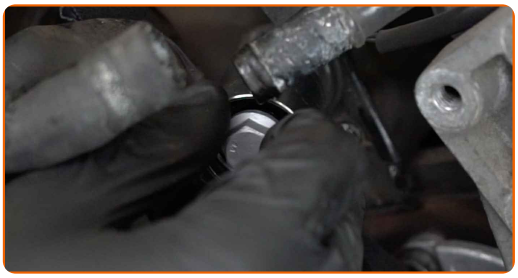
120

Treat the fastening bolt. Use a sealant.



121

Install the timing belt idler pulley.

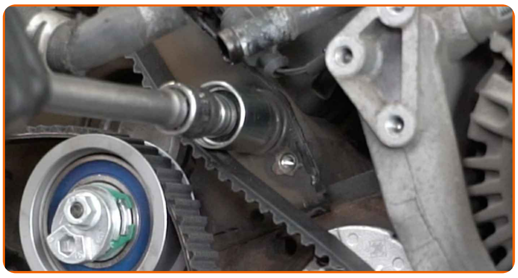


122

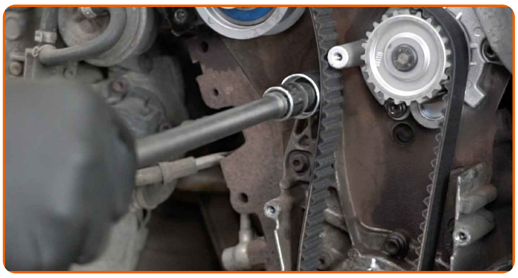
Screw in the fastener of the timing belt idler pulley. Use a drive socket #13. Use a ratchet wrench.



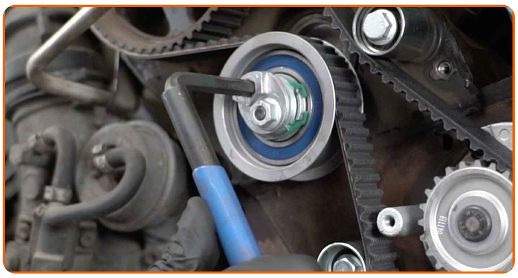
123 Tighten the fastener of the timing belt idler pulley. Use a drive socket #13. Use a torque wrench. Tighten it to 25 Nm torque.



124 Tighten the fastener of the timing belt idler pulley. Use a drive socket #12. Use a torque wrench. Tighten it to 25 Nm torque.



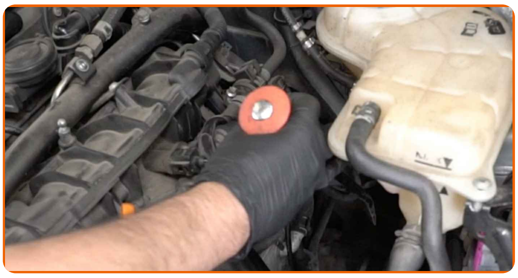
125 Adjust the timing belt tension by moving the tensioner pulley. Use a combination spanner #13. Use HEX No.H6.



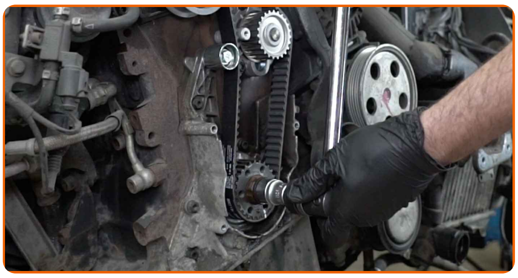
Replacement: water pump & timing belt kit – Audi A4 B7. Tip from AUTODOC:

- Make sure that the timing belt is properly tensioned.

126 Remove the crankshaft locking tool.



127 Turn the crankshaft gear. Use 12-point socket No.19. Use a ratchet wrench.



Replacement: water pump & timing belt kit – Audi A4 B7. AUTODOC recommends:

- Make sure all the timing belt components are mounted correctly.

128 Tighten the fastener of the timing belt tensioner pulley. Use a drive socket #13. Use a torque wrench. Tighten it to 27 Nm torque.



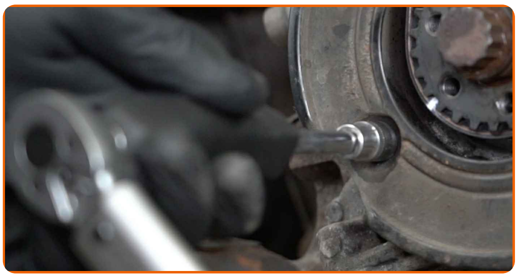
129

Install the lower timing cover.



130

Tighten the fasteners of the lower timing cover. Use a drive socket #10. Use a torque wrench. Tighten it to 10 Nm torque.



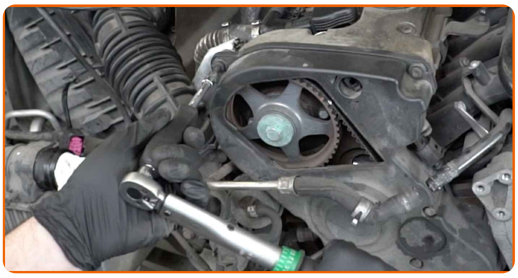
131

Install the timing belt cover.



132

Tighten the timing belt cover fasteners. Use a drive socket #10. Use Torx T27. Use a torque wrench. Tighten it to 10 Nm torque.



133 Attach the coolant hose.



134 Secure the coolant hose clamp. Use clic-R collar pliers.



135 Screw in the fastener of the coolant hose clamp. Use HEX No.H6. Use a ratchet wrench.



136 Treat the fastening bolts. Use a sealant.



137 Install the crankshaft pulley according to the factory marks.



138

Tighten the crankshaft pulley fastener. Use HEX No.H6. Use a torque wrench. Tighten it to 10 Nm torque.+90°



AUTODOC recommends:

- Important! Be sure to use new fasteners.

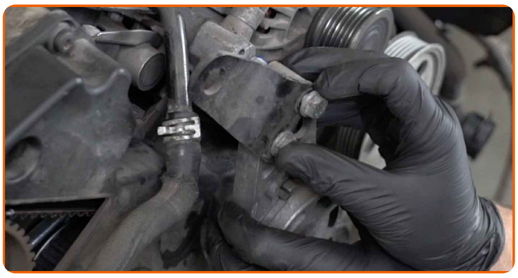
139

Treat the fastening bolts. Use a sealant.



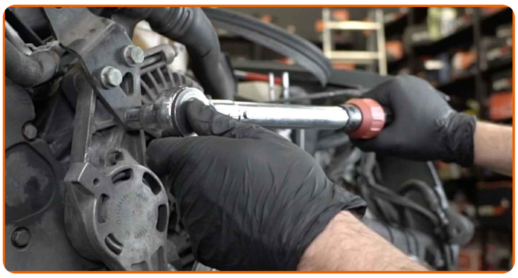
140

Install the serpentine belt tensioner pulley.

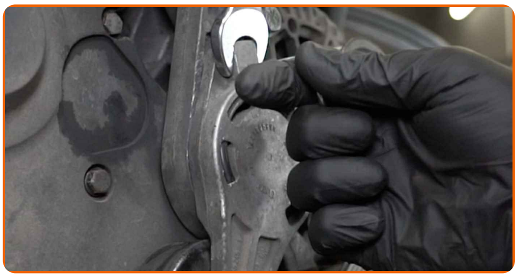


141

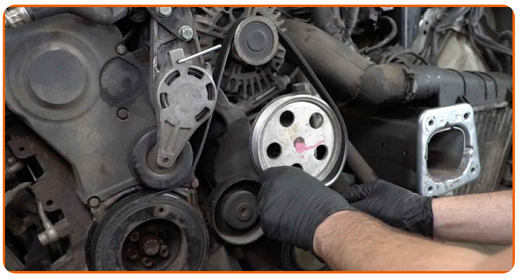
Tighten the fastener of the serpentine belt tensioner pulley. Use a drive socket #13. Use a torque wrench. Tighten it to 23 Nm torque.



142 Pull aside the V-ribbed belt tensioner pulley. Use a combination spanner #17.



143 Install the V-ribbed belt.



Replacement: water pump & timing belt kit – Audi A4 B7. Tip:

- Make sure that the V-ribbed belt fits all pulleys snugly.

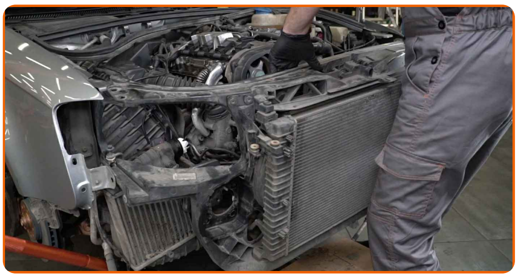
144 Return the tensioner pulley to its initial position. Use a combination spanner #17.



145 Support the engine in the oil pan area. Use a jack.



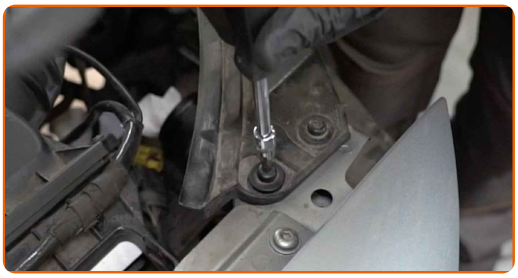
146 Install the support panel together with the engine cooling radiator.



AUTODOC recommends:

- Replacement: water pump & timing belt kit – Audi A4 B7. Do not use excessive force during installation. This may damage the fasteners.

147 Screw in the fasteners of the engine cooling radiator support panel. Use Torx T27. Use a ratchet wrench.



148 Install the air conditioning radiator.



149 Tighten the fasteners of the air conditioning radiator. Use Torx T27. Use a torque wrench. Tighten it to 13 Nm torque.



150 Remove the support from under the engine.



151 Attach the lower coolant pipe.



152 Attach the clip of the lower coolant hose.

153 Install the pipes of the automatic transmission fluid cooling line.

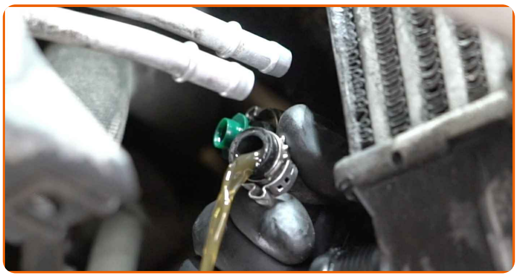
154 Attach the clamps of the pipes of the automatic transmission fluid cooling line.

155 Prepare a container for fluids.



156

Remove the caps from the pipes of the automatic transmission fluid cooling line.



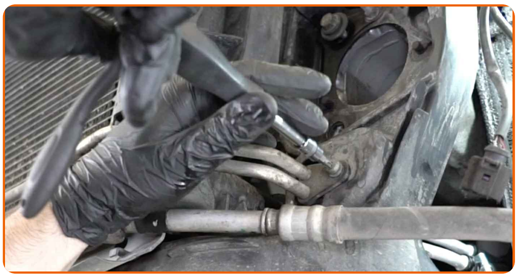
157

Attach the hydraulic power steering hoses.



158

Screw in the fasteners of the hydraulic power steering hoses. Use Torx T20. Use Torx T27. Use a ratchet wrench.



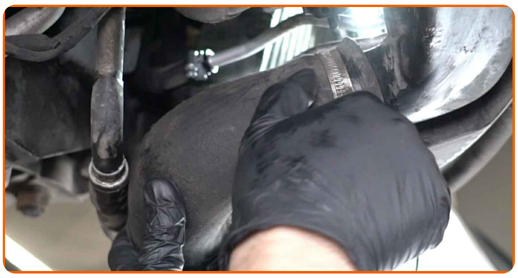
159

Remove the microfibre cloth from the intercooler air guide.

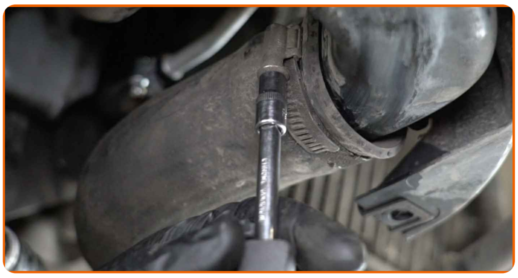


160

Install the air intake pipe and secure it.



161 Fasten the clamp on the air intake hose. Use a drive socket #7. Use a ratchet wrench.



162 Clean the pipes of the automatic transmission fluid cooling line. Use all-purpose cleaning spray.



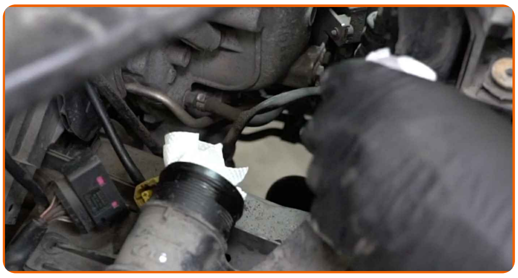
163 Attach the hose of the automatic transmission fluid cooling line.



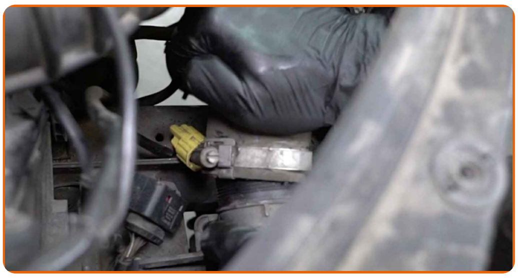
164 Tighten the fastener of the hose of the automatic transmission fluid cooling line. Use a combination spanner #19. Use a combination spanner #22. Use a torque wrench. Observe the recommended tightening torque.



165 Remove the microfibre cloth from the intercooler air guide.



166 Install the air intake pipe and secure it.



167 Fasten the clamp on the air intake hose. Use a drive socket #7. Use a ratchet wrench.



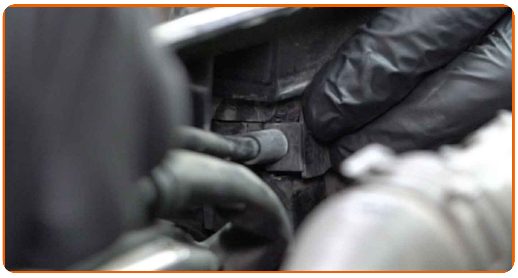
168 Plug in the connector of the engine cooling fans.



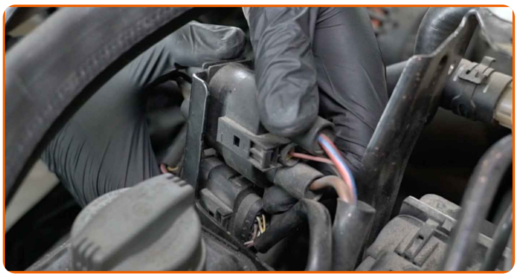
169 Fasten the clamp on the air intake hose. Use a drive socket #7. Use a ratchet wrench.



170 Install the bonnet latch cable.



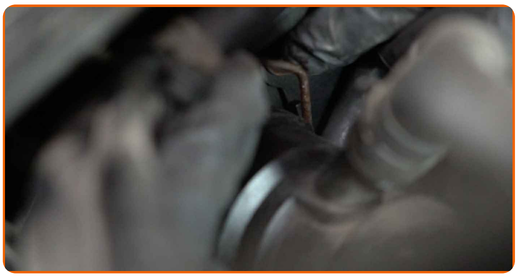
171 Install the wiring harness holder.



172 Attach the upper coolant hose.



173 Attach the clip of the upper coolant hose.



174 Plug in the connector of the engine cooling fans.

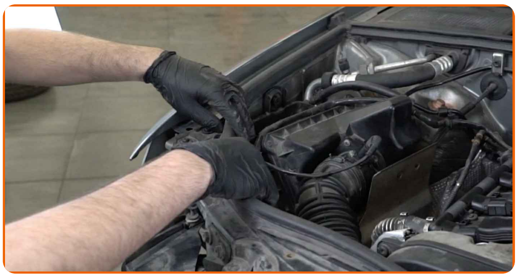


175 Install the radiator air guides.

176 Screw in the fasteners of the radiator air guides. Use Torx T20. Use a ratchet wrench.



177 Install the bonnet weather strip.



178 Install the bumper reinforcement bar.

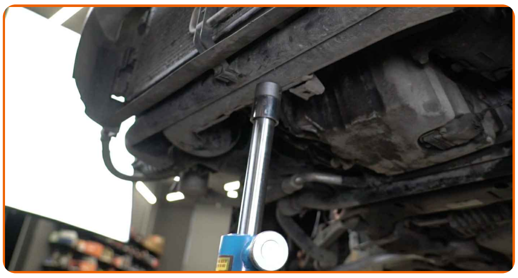


179 Screw in the fasteners of the bumper reinforcement bar. Use a drive socket #13. Use a ratchet wrench.

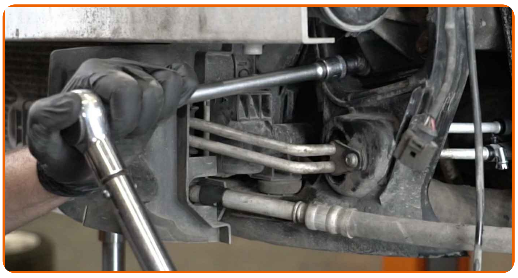


180 Lift the car using a jack or place it over an inspection pit.

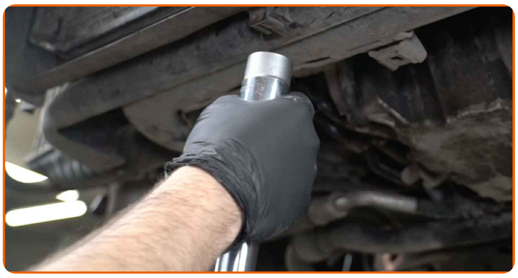
181 Support the bumper reinforcement bar. Use a hydraulic transmission jack.



182 Tighten the fastener of the bumper reinforcement bar. Use a drive socket #13. Use a torque wrench. Observe the recommended tightening torque.



183 Remove the support from under the bumper reinforcement bar.



AUTODOC recommends:

- Replacement: water pump & timing belt kit – Audi A4 B7. Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

184 Plug in the horn connector.

185 Attach the air duct.

186 Plug in the horn connector.

187 Install the air duct.



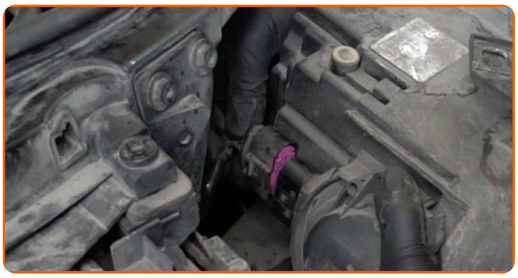
188 Plug in the connector of the coolant temperature sensor.



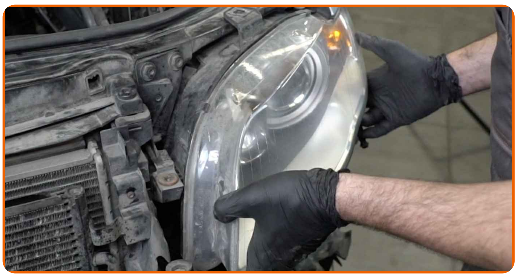
189 Attach the wiring of the coolant temperature sensor.



190 Plug in the connectors of the headlight bulbs.



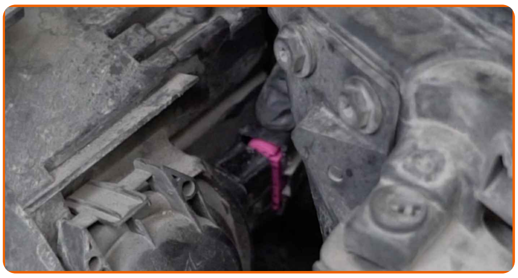
191 Install the headlamp.



192 Screw in the headlight fasteners. Use Torx T27. Use a ratchet wrench.



193 Plug in the connectors of the headlight bulbs.



194 Install the headlamp.



195 Screw in the headlight fasteners. Use Torx T27. Use a ratchet wrench.



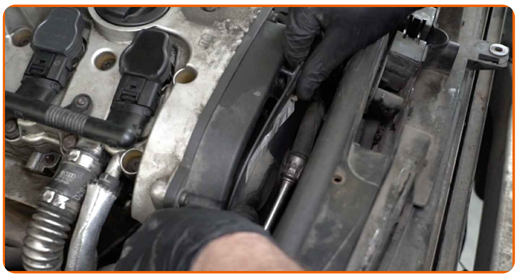
196

Tighten the headlamp fasteners. Use Torx T27. Use a torque wrench. Observe the recommended tightening torque.



197

Install the front upper timing belt cover.



198

Screw in the fasteners of the front upper timing belt cover. Use a flat screwdriver.



199

Install the air intake duct.



200

Screw in the fasteners of the air intake duct. Use a Phillips screwdriver.



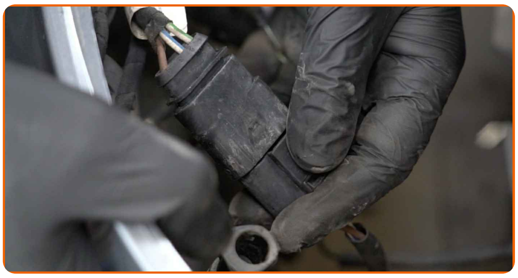
201

Stick painter's tape to the car fenders to protect the paintwork from damage when demounting the bumper.



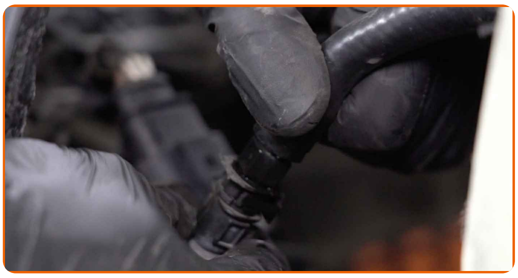
202

Attach the connectors of the fog lights.

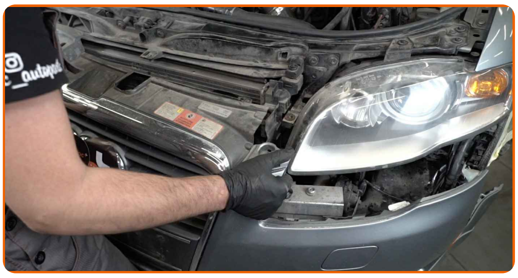


203

Attach the headlamp washer hose.



204 Install the bumper to the mounting seat. Make sure you hear a click indicating that it is locked in place.



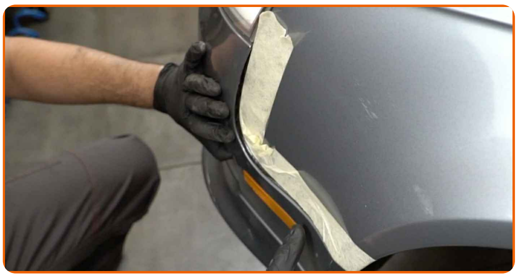
205 Screw in the bumper upper fasteners. Use Torx T27. Use a drive socket #10. Use a ratchet wrench.



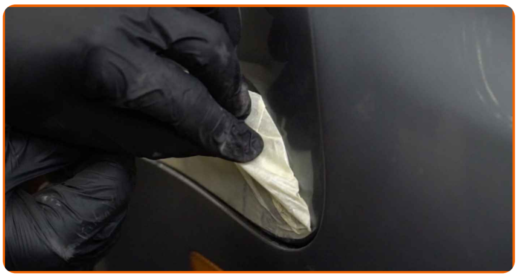
Replacement: water pump & timing belt kit – Audi A4 B7. Tip:

- To prevent damage to the components, hold the bumper when screwing in the upper fasteners.

206 Snap the bumper side clips into place. Make sure you hear a click indicating that it is locked in place.



207 Remove the masking tape.



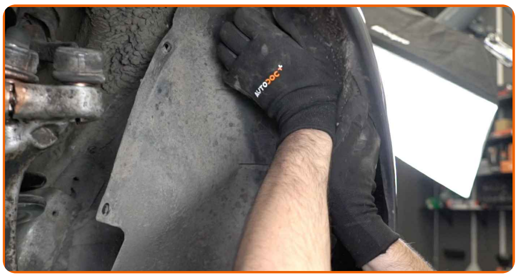
208 Screw in the fasteners connecting the bumper to the wings. Use a drive socket #10. Use a ratchet wrench.



209 Screw in the fastener of the spacer under the bumper reinforcement bar. Use Torx T25. Use a drive socket #10. Use a ratchet wrench.



210 Install the wheel arch cover to its mounting seat.



211 Install and tighten the wheel arch cover fasteners. Use Torx T25. Use a ratchet wrench.



212 Install the wheel.



AUTODOC recommends:

- Important! Hold the wheel while screwing in the fastening bolts. Audi A4 B7

213 Screw in the wheel bolts. Use wheel impact socket #17.



214 Lower the car.



215 Secure the wheels with chocks.

216 Tighten the wheel bolts using a criss-cross pattern. Use wheel impact socket #17. Use a torque wrench. Tighten it to 120 Nm torque.



217 Remove the jacks and chocks.

218 Remove the coolant reservoir cap.



219 Insert the funnel.



220 Pour coolant in the coolant reservoir.



Replacement: water pump & timing belt kit – Audi A4 B7. Professionals recommend:

- Only use the coolant recommended by the manufacturer.
- The coolant level should be at the MAX mark.
- Wait until the air goes out of the system.

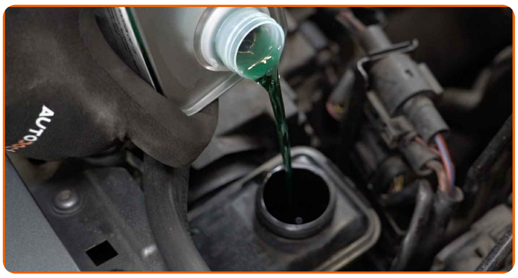
221 Open the coolant system bleed screw. Use a drive socket #10. Use a ratchet wrench. Wait until the air goes out of the system.



222 Unscrew the cap of the hydraulic power steering reservoir. Remove the cap from the hydraulic power steering reservoir.



223 Fill the hydraulic power steering reservoir with fluid.



Replacement: water pump & timing belt kit – Audi A4 B7. Tip from AUTODOC:

- Use the hydraulic power steering fluid recommended by the car manufacturer.
- The hydraulic power steering fluid level should be at the MAX mark on the reservoir.

224 Attach the terminals to the battery.



Replacement: water pump & timing belt kit – Audi A4 B7. AUTODOC recommends:

- Be careful! Do not mix up the positive and the negative terminals of the car battery.

225 Screw in the fasteners of the battery terminals. Use a drive socket #10. Use a ratchet wrench.

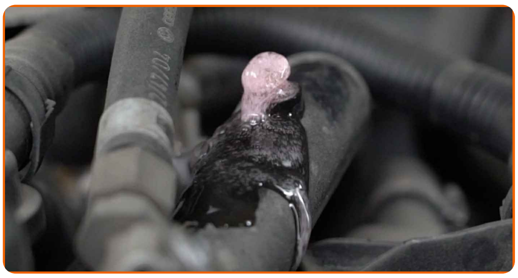


226 Run the engine for a few minutes. This should be done in order to remove residual air from the cooling system and to check if the components are operating correctly.



227 Shut off the engine.

228 Check the coolant level. If necessary, top up to the required level.



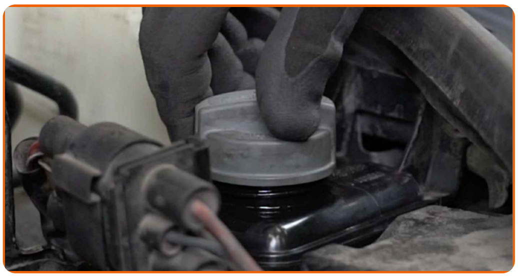
Please note!

- The coolant level should be at the MAX mark.

229 Close the coolant system bleed screw. Use a drive socket #10. Use a ratchet wrench.



230 Place the cap on the hydraulic power steering reservoir.



231 Screw on the cap of the hydraulic power steering reservoir.

232 Install the coolant reservoir cap.

233 Screw on the coolant reservoir cap.



234 Install the engine cover and secure it.

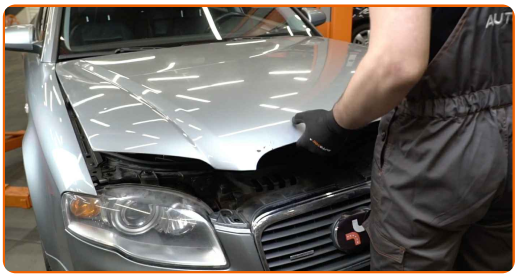
AUTODOC recommends:

- Replacement: water pump & timing belt kit – Audi A4 B7. Do not use excessive force during installation. This may damage the part.
- Make sure the engine cover is properly seated. It should not be displaced with respect to the guiding fasteners.

235 Remove the fender protection cover.

236

Close the hood.



Replacement: water pump & timing belt kit – Audi A4 B7. AUTODOC experts recommend:

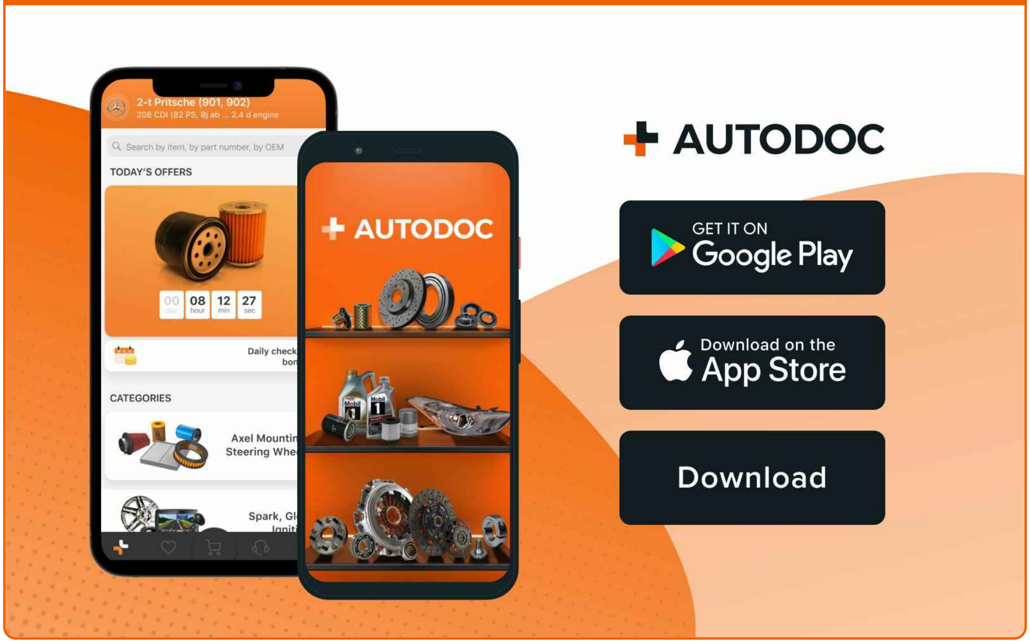
- Be sure to record the mileage at which you replaced the timing belt and water pump kits.

WELL DONE!

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